M33 A(86)-1

CURRENT INDUSTRIAL REPORTS

Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

JANUARY 1986
M33A(86)-1
Issued April 1986

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information appears on page 5.

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Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
January	155	113	41	473	273	200	31	11	20	66	65	1
1985												
Total	2,583	1,979	604	7,165	4,068	3,097	378	187	192	889	838	53
December	150	104	46	480	250	230	26	13	13	61	58	3
November	209	163	46	498	266	232	30	14	15	70	68	2
October	257	203	54	639	342	297	33	19	14	70	66	4
September	206	163	43	554	299	255	29	14	16	69	67	3
August	236	196	40	581	349	232	28	14	14	66	63	4
July	244	205	39	548	327	222	26	10	16	62	58	4
June	226	176	50	602	358	244	33	16	17	74	68	6
May	252	194	58	642	383	258	35	17	18	84	79	5
April	240	180	60	689	394	295	35	18	17	85	79	6
March	211	152	59	667	378	289	37	19	18	86	80	6
February	171	119	52	604	337	267	32	16	17	82	76	6
January	181	124	57	661	385	276	34	17	17	80	76	4

[1] Detail may not add to totals due to independent rounding.
[2] See footnote 1 at end of table 2.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.
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Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	January 1986[1]	December 1985
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	627,707	630,540
	For sale	386,686	354,015
	For own use	241,021	276,525
	Compacted graphite castings	(NA)	(NA)
33210 10	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	154,690	150,157
	For sale	113,325	103,861
	For own use	41,365	46,296
	Ductile iron pressure pipe and fittings:[2]	39,243	43,057
33211 31	Under 14 inches (inside diameter)	[a]31,703	25,036
33211 35	14 inches and over (inside diameter)	[b]977	
33212 24	Construction and utility castings	19,010	
33212 22	Automotive uses		82,064
33212 23	Machinery uses	63,729	
33212 79	Other ductile iron castings (except pressure pipe and fittings):		
	For sale		
	For own use		
	Gray iron castings	473,017	480,383
	For sale	273,361	250,154
	For own use	199,656	230,229
	Molds for heavy steel ingots:		
33216 11	For sale	[a]66,794	[a]52,055
	For own use	[a]45,889	[a]24,923
	Gray iron pressure pipe and fittings:[2]		[b]6,137
33217 44	Under 14 inches (inside diameter)	[b]6,899	[a]892
33217 45	14 inches and over (inside diameter)	[b]1,447	
33218 00	Gray iron soil pipe and fittings[2]	35,570	21,595
33219 39	Automotive uses	89,031	
33219 41	Construction and utility castings	24,186	374,781
33219 97	Other gray iron castings (including white iron castings):		
	For sale	[a]111,762	
	For own use	[b]91,439	
	Malleable iron castings	30,757	[a]26,068
	For sale	10,994	[b]13,124
	For own use	19,763	12,944
		16,947	16,910
33221 31	Standard malleable[3]	[a]13,810	[b]9,158
33221 21	Pearlitic malleable[3]		[a]60,680
	Steel castings (except investment)	66,327	57,722
	For sale[4]	65,036	[a]2,958
	For own use	1,291	
	Carbon steel	45,676	36,723
	Railroad specialties[5]	28,860	13,724
33252 16	Side frames, bolsters, couplers, and yokes[5]	8,496	4,793
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[4]		
33252 29	Other carbon steel railway and transit rolling stock castings:	20,364	8,931
	For sale		
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:	[a]16,551	[a]21,260
	For sale	265	[a]1,739
	For own use		
	Alloy (except high alloy) steel castings	10,973	[a]20,286
	Railway specialties[5]	[b]4,401	3,180
33255 51	Other alloy steel castings, including rolls for rolling mills:	6,572	[b]17,106
33255 57	For sale		
	For own use	([b]9,678)	([b]3,671)
	High alloy	([b]9,678)	([b]3,257)
33254 26	For sale		([b]414)
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

( ) Data in parenthesis have associated standard errors of 15 percent or greater. A discussion of standard error appears in the text under "Reliability of Data."

(NA) Not available.

[1]Data for January 1986 and December 1985 may not be comparable due to the fact that a new sample panel was used for January 1986. The standard error table which is normally published in the January report of M33A will appear in the February 1986 issue.

[2]Does not include machined, threaded, or assembled fittings.

[3]Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.

[4]Shipments for sale contain a small amount of shipments for own use.

[5]Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986 AND 1985

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1,2]	Percent exports to manufacturers' shipments	Imports for consumption[1,3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
January	114,862	1,665	1.4	2,135	115,332	1.9
1985						
December	96,717	3,149	3.3	1,726	95,294	1.8
November	156,913	1,339	0.7	1,468	157,042	0.9
October	204,540	1,631	0.8	1,873	204,782	0.9
September	162,690	3,024	1.9	(NA)	(NA)	(NA)
August	202,593	1,808	1.0	2,413	203,198	1.2
July	214,503	765	(Z)	2,398	216,136	1.0
June	179,661	1,712	1.0	8,830	186,779	4.7
May	201,804	1,534	1.0	1,950	202,220	1.0
April	189,414	4,314	2.3	19,974	205,074	9.7
March	154,767	18,088	11.7	2,008	138,687	1.4
February	116,218	870	1.0	1,226	116,574	1.1
January	120,722	997	1.0	2,431	122,156	2.0

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1,2]	Percent exports to manufacturers' shipments	Imports for consumption[1,3]	Apparent consumption[4]	Percent imports to apparent consumption
	January 1986						
33216 11	Molds for heavy steel ingots[6]	112,683	2,362	2.1	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	35,570	415	1.2			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	8,346			2,135	115,332	1.9
3321A 31 and 35	Ductile iron	70,946	1,250	1.6			
	December 1985						
33216 11	Molds for heavy steel ingots[6]	76,978	929	1.2	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	21,595	281	1.3			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	7,029			1,726	95,294	1.8
3321A 31 and 35	Ductile iron	68,093	2,868	3.8			

(NA) Not available. (Z) Less than one-half of 1 percent.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] See footnote 1 at end of table 2.
[6] Includes converters and parts for casting machines.

Table 5. COMPARISON OF SIC-BASED PRODUCT CODES WITH SCHEDULE B EXPORT NUMBERS AND TSUSA IMPORT NUMBERS: 1986

Product code	Product description	Export number	Commodity description	Import number	Article description
33216 11	Molds for heavy steel ingots	674.1021	Ingot molds for steel ingots	674.1040	Converters and ingot molds, all the foregong of types used in metallurgy and in metal foundries, and parts thereof, other than casting machines
33218 00	Gray iron soil pipe and fittings	610.5510	Cast-iron soil pipe		
		610.6020	Cast-iron fittings, not malleable: For cast-iron pipe		
				610.5620	Cast-iron soil pipe
				610.5635	Cast-iron pressure pipe under 14 inches (inside diameter)
		610.5530	Cast-iron pressure pipe under 14 inches (inside diameter)	610.5645	Other cast-iron pipes and tubes
		610.5540	Other cast-iron pipes and tubes	610.5800	Alloy cast-iron pipes and tubes
33217 44 and 45	Gray iron pressure pipe and fittings	610.6030	Cast-iron fittings; not malleable: For threaded pipe	610.6220	Cast-iron fittings, not malleable: For cast-iron soil pipe
3321A 31 and 35	Ductile iron pressure pipe and fittings	610.6050	Cast-iron fittings; not malleable: Other	610.6240	Cast-iron fittings, not malleable: Other
		[1]610.8010	Other fittings: Cast and containing over 2.5 percent carbon	610.6300	Cast-iron fittings, not malleable: Alloy cast-iron
				610.8008	Iron and steel pipe and tube fittings

[1]Export number 610.8010 is partially comparable to SIC product code 34945 11 as well as 33217 44, 33217 45, 3321A 31, and 3321A 35.

DESCRIPTION OF SURVEY

Scope of Survey. This survey covers producers of ferrous castings, whether for commercial sale or for use by the producing company.

Survey Methodology. The statistics in this publication are based on information collected on Bureau of the Census monthly Form M33A, Iron and Steel Castings. The estimates are based on a probability proportionate-to-size sample survey. The sample currently in use includes about 475 establishments selected from a list of 1,400 producers identified in a complete coverage survey for 1975.

A new sample was drawn for 1986 based on the 1982 Census of Manufactures. The new sample became effective January 1986.

Reliability of Data. There are two types of errors possible in an estimate based on a sample survey—sampling and nonsampling. Sampling errors occur because observations are made only on a sample, not on the entire population. Nonsampling errors can be attributed to many sources in the collection and processing of data. The accuracy of a survey result is determined by the joint effects of sampling and nonsampling errors.

a. Measures of Sampling Variability. The particular sample used in this survey is one of a large number of possible samples of the same size that could have been selected using the same design. Estimates derived from the different samples would differ from each other. The average of these estimates would differ from the estimate derived from a complete enumeration of the population only to the extent that the nonsampling errors may differ from a sample to a complete enumeration. The sampling error or standard error of the estimate is a measure of the variability among the estimates from all possible samples of the same size and design and, thus, is a measure of the precision with which an estimate from a particular sample approximates the results of a complete enumeration. The estimated relative standard errors for this survey were computed as the standard error of the estimate times 100 percent divided by the value being estimated.

   Estimates of sampling variability (the relative standard error) for January 1986 at the detail provided in this publication are shown in table 3. These coefficients of variation permit certain confidence statements about the sample estimates. As noted above, the particular sample used in this survey is one of a large number of all possible samples of about the same size that could have been selected using the same design. In about two out of three (67 percent) of these samples, the estimate would differ from a complete enumeration by less than the corresponding percent for that estimate shown in the sampling variability table. In about 19 out of 20 (95 percent) of these samples, the estimate would differ from the results of a complete enumeration by less than twice the percentages shown.

b. Nonsampling errors. As calculated for this report, the relative standard error measures certain nonsampling errors but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples of the same size and design, between the estimate and the true value being estimated. The accuracy of the tabulated data is determined by the joint effects of the sampling and nonsampling errors.

   Nonsampling errors can be attributed to many sources: (1) inability to obtain information about all cases in the sample, (2) response errors, (3) definitional difficulties, (4) differences in the interpretation of questions, (5) mistakes in recording or coding the data obtained, and (6) other errors of collection, response, coverage, and estimation for missing data. These nonsampling errors also occur in complete censuses.

   Although no direct measurement of the biases due to nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence. A major source of bias in the published estimates is due to "imputing" data for nonrespondents, for late reporters, and for data which fail edit. Such missing figures are imputed based on month-to-month movements shown by reporting firms. Imputation generally is limited to a maximum of 25 percent for any one data cell. Figures with imputation rates greater than 25 percent are footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse because the actual monthly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is not precisely known, but is assumed to be small. The degree of uncertainty regarding the accuracy of the published data, however, increases as the percentage of imputation increases. Figures with estimation rates above 25 percent should be used with caution.

Revisions to Previous Period Data. Statistics for previous months may be revised as the result of corrected data from respondents, including the receipt of late reports for which imputations were made as described above. Figures which have been revised by more than 5 percent from previously published figures are indicated by footnotes.

Reporting Period Adjustment. The data are adjusted for the number of working days in the reporting period to compensate for differences in individual company reporting patterns, i.e., calendar month, 4-week, 5-week periods. Since the calendar month accounting system prevails in this industry, adjustments have been made to those reporting on other than a calendar month basis.

EXPLANATION OF TERMS

Shipments for Sale—Represents commercial sales only (castings shipped to the trade). Intra-company sales are not included in this category.

Shipments for Own Use—Represents castings "shipped" for use by the reporting company or by a subsidiary, parent, or other affiliated company. Castings produced and consumed at the same location in the production of finished products are also included.

All Other Gray Iron Castings—Includes abrasives, rolls, chilled iron railroad car wheels, grinding balls, white iron castings, semisteel castings, and pressure and soil pipe fittings that require machining, threading, or assembling.

Compacted Graphite—Characterized by interconnecting graphite intermediate in shape between the flake graphite of gray iron and the spheroidal graphite of ductile iron.

Cast Iron Pressure Pipe and Fittings—Includes those fittings that do not require machining, threading, or assembling.

Pearlitic Malleable—This classification is reported pursuant to A.S.T.M. (American Society for Testing Materials) Designation A220-76.

Alloy Steel—Steel which contains alloying elements in excess of the maximum standard ranges of the American Iron and Steel Institute as follows:

1. Manganese	in excess of 1.65%
2. Silicon	in excess of .60%
3. Copper	in excess of .60%
4. Chromium	up to 3.99%
5. Aluminum, cobalt, niobium, molybdenum, nickel, titanium, tungsten, vanadium, zirconiun, or any other alloying element.	Any amount specified or known to have been added to obtain a desired alloying effect.

High Alloy Steel Castings—High alloy steel castings means heat and/or corrosion resistant steel castings containing 8 percent or more of chromium or nickel or both, with or without molybdenum or other elements.

COMPARISON OF EXPORT, IMPORT, AND DOMESTIC OUTPUT DATA

The Standard Industrial Classification (SIC) system used for domestic output and the statistical export and import commodity classifications were developed independently. This results in considerable difficulty in comparing the three types of data for many commodity areas. The domestic output classification is based on type of industry; on the other hand, the export and import classification system is more materials oriented. Also, there are a substantial number of imported commodities which have no comparable domestic output classification. The relationships shown in this report should be considered only as approximations, since, in addition to the problems mentioned above, there are also the following problems affecting the comparability of the three sets of data.

Valuation. There are different methods of valuation for the three types of data:

- Domestic Output. Valued at the point of production. It includes the net sales price, f.o.b. plant, after discounts and allowances, exclusive of freight charges and excise taxes.
- *Exports.* Valued at the point of exportation. It includes the selling price, or cost if not sold, and inland freight, insurance and other charges to the export point.

  Estimated producers' values of exports have also been developed. These values more closely approximate the values reported for domestic output because they exclude freight, insurance, and other charges applied from the producing plant to the export point.
- *Imports.* Valued at the first port of entry in the United States. It includes c.i.f. (cost, insurance, and freight), duty, and other charges to the import point.

Duplication in Quantity and Value of Output. Because producers' shipments of some commodities may be used as materials for incorporation into other commodities, combinations of data for such commodities may contain a certain amount of duplication. Thus, percentages of exports to output or imports to apparent consumption (output plus imports minus exports) at four-digit or broader levels may be understated. Where duplication is known to be substantial, the output data are appropriately noted in the table.

Low-Value Export and Import Transactions. Detailed commodity information is not included for individual export shipments valued at not more than $1,000. Generally, detailed commodity information is not included for individual import shipments valued at not more than $1,000. For textiles and textile products, gloves, footwear, and miscellaneous rubber and plastics products, detailed commodity information is not included for individual import shipments valued at not more than $250. This is believed to have only negligible effects on the statistics for the bulk of the commodities.

Manufacturers' Shipments, Not Specified by Kind. The value of manufacturers' shipments at the four-digit industry level often includes a small amount which is not distributed among the individual five-digit product classes. Export and import percentages at the more detailed levels might, therefore, be slightly overstated.

Time Lag Between Output and Export. There will be a lag between the time a commodity is produced or shipped by the

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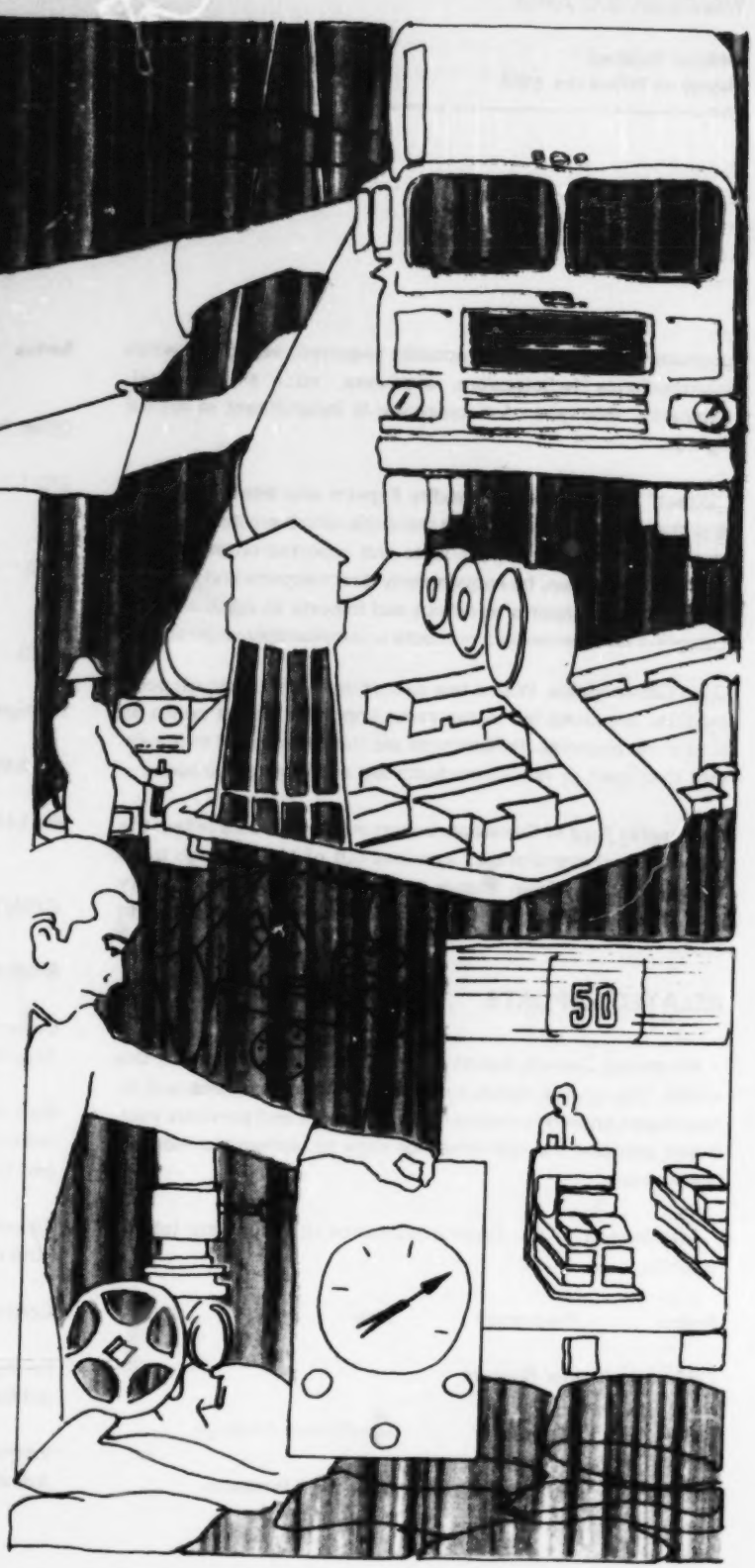

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Chemicals and Petroleum Products
Rubber and Plastics Products
Glass Products
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producer and the time it is actually exported, especially when intermediaries (wholesalers, exporters, etc.) are involved. Ordinarily, this type of discrepancy is insignificant in annual figures.

"Direct" vs "Total" Commodity Exports and Imports. Export and import data do not include materials which are incorporated into other more finished products and exported or imported in finished form. Thus, by showing only direct exports and imports, the relation of exports to output and imports to apparent consumption for intermediate products is considerably understated.

Used Commodities. With a few exceptions, used or rebuilt commodities are classified in the same import or export codes as is new merchandise. Percentages are thus overstated to the extent that used or rebuilt products are significant in trade.

Geographic Area of Coverage. Import and export data reflect the movement of merchandise into and out of U.S. foreign trade zones, the U.S. Virgin Islands, and the U.S. customs territory (includes the 50 States, the District of Columbia, and Puerto Rico).

RELATED REPORTS

An annual Current Industrial Report also is published in this series. The annual report summarizes monthly figures and incorporates known revisions for both current and previous year. It also provides a single reference copy to replace the monthly publications.

The Bureau of the Census publishes the following related reports:

Series	Frequency	Title
Current Industrial Reports		
M33E	Monthly	*Nonferrous Castings*
MA33B	Annually	*Steel Mill Products*
Other Industry Reports		
M3-1	Monthly	*Manufacturers' Shipments, Inventories, and Orders*
(AS)	Annually	Annual Survey of Manufactures (ASM)
(MC)	Quinquennially	Census of Manufactures
Foreign Trade Reports		
EX 546	Monthly	*U.S. Exports*
IM 145-X	Monthly	*U.S. Imports for Consumption and General Imports*

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M 33 A(86)-2

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(Short tons)

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	For sale	341,466	398,402
	For own use	200,323	246,383
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	145,639	r161,713
	For sale	110,895	r121,347
	For own use	34,744	40,366
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	36,170	40,604
33211 35	14 inches and over (inside diameter)	31,782	r29,601
33212 24	Construction and utility castings	b1,472	b979
33212 22	Automotive uses	32,878	r40,106
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):		
	For sale	a26,684	r34,097
	For own use	a16,653	a r16,326
	Gray iron castings	396,150	483,072
	For sale	230,571	277,055
	For own use	165,579	206,017
33216 11	Molds for heavy steel ingots:		
	For sale	a56,850	a63,838
	For own use	a31,088	a45,929
	Gray iron pressure pipe and fittings:[1]		
33217 44	Under 14 inches (inside diameter)	a5,814	r6,433
33217 45	14 inches and over (inside diameter)	a1,237	a1,447
33218 00	Gray iron soil pipe and fittings[1]	37,009	r38,815
33219 39	Automotive uses	94,803	r104,793
33219 41	Construction and utility castings	28,837	r31,718
33219 97	Other gray iron castings (including white iron castings):		
	For sale	a82,068	108,657
	For own use	a58,444	a r81,442
	Malleable iron castings	41,492	r45,098
	For sale	14,421	r16,917
	For own use	27,071	r28,181
33221 31	Standard malleable[2]	22,954	r24,669
33221 21	Pearlitic malleable[2]	a18,538	r20,429
	Steel castings (except investment)	52,512	r61,171
	For sale[3]	51,617	r60,009
	For own use	895	r1,162
	Carbon steel	37,599	r42,313
	Railroad specialties[4]	22,713	r25,654
33252 16	Side frames, bolsters, couplers, and yokes[4]	7,077	8,641
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]		
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	13,636	r17,013
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:		
	For sale	a14,800	a16,521
	For own use	b86	b r138
	Alloy (except high alloy) steel castings	6,237	r8,242
33255 51	Railway specialties[4]	a1,816	a r1,876
33255 57	Other alloy steel castings, including rolls for rolling mills:		
	For sale	b4,421	b6,366
	For own use		
33254 26	High alloy	(b8,676)	(a r10,616)
	For sale	(b8,676)	(a r10,616)
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

( ) Data in parenthesis have associated standard errors of 15 percent or greater. A discussion of standard error appears in the text under "Reliability of Data."

(NA) Not available. [r]Revised by 5 percent or more from previously published figures.

[1]Does not include machined, threaded, or assembled fittings.
[2]Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3]Shipments for sale contain a small amount of shipments for own use.
[4]Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986 AND 1985

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
February	112,012	1,097	1.0	1,832	112,747	1.6
January	116,900	1,665	1.4	2,135	117,370	1.8
1985						
December	96,717	3,149	3.3	1,726	95,294	1.8
November	156,913	1,339	0.7	1,468	157,042	0.9
October	204,540	1,631	0.8	1,873	204,782	0.9
September	162,690	3,024	1.9	(NA)	(NA)	(NA)
August	202,593	1,808	1.0	2,413	203,198	1.2
July	214,503	765	(Z)	2,398	216,136	1.0
June	179,661	1,712	1.0	8,830	186,779	4.7
May	201,804	1,534	1.0	1,950	202,220	1.0
April	189,414	4,314	2.3	19,974	205,074	9.7
March	154,767	18,088	11.7	2,008	138,687	1.4
February	116,218	870	1.0	1,226	116,574	1.1
January	120,722	997	1.0	2,431	122,156	2.0

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	FEBRUARY 1986						
33216 11	Molds for heavy steel ingots[5]	87,938	1,629	1.9	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	37,009	109	0.3			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	7,051	988	2.2	1,832	80,965	2.3
3321A 31 and 35	Ductile iron	36,170					
	JANUARY 1986						
33216 11	Molds for heavy steel ingots[5]	109,767	2,362	2.2	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	38,815	415	1.1			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	7,880	1,250	2.6	2,135	87,769	2.4
3321A 31 and 35	Ductile iron	40,604					

(NA) Not available. (Z) Less than one-half of 1 percent.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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M33A(86)-3

CURRENT INDUSTRIAL REPORTS

Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

MARCH 1986
M33A(86)-3
Issued May 1986

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
March	161	r121	40	r430	218	r212	r42	r14	r28	53	52	1
February	140	r105	35	r431	231	r200	r36	r13	r23	54	53	1
January	162	121	41	r398	264	r134	47	17	30	61	60	1
1985												
Total	2,583	1,979	604	7,165	4,068	3,097	378	187	192	889	838	53
December	150	104	46	480	250	230	26	13	13	61	58	3
November	209	163	46	498	266	232	30	14	15	70	68	2
October	257	203	54	639	342	297	33	19	14	70	66	4
September	206	163	43	554	299	255	29	14	16	69	67	3
August	236	196	40	581	349	232	28	14	14	66	63	4
July	244	205	39	548	327	222	26	10	16	62	58	4
June	226	176	50	602	358	244	33	16	17	74	68	6
May	252	194	58	642	383	258	35	17	18	84	79	5
April	240	180	60	689	394	295	35	18	17	85	79	6
March	211	152	59	667	378	289	37	19	18	86	80	6
February	171	119	52	604	337	267	32	16	17	82	76	6
January	181	124	57	661	385	276	34	17	17	80	76	4

rRevised by 5 percent or more from previously published figures.

[1]Detail may not add to totals due to independent rounding.
[2]See footnote 2 at end of table 2.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.
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C 3.158:

Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	March 1986	February 1986	January 1986[1]
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	590,740	r570,658	r606,024
	For sale	339,038	335,870	402,588
	For own use	251,702	r234,788	r203,436
33210 10	Compacted graphite castings	(NA)	(NA)	(NA)
	For sale	(NA)	(NA)	(NA)
	For own use	(NA)	(NA)	(NA)
	Ductile (nodular) iron castings	160,874	139,784	16,713
	For sale	121,432	r105,040	121,347
	For own use	39,442	34,744	40,366
	Ductile iron pressure pipe and fittings:[2]			
33211 31	Under 14 inches (inside diameter)	42,095	35,949	40,604
33211 35	14 inches and over (inside diameter)	37,988	31,437	29,601
33212 24	Construction and utility castings	b2,064	b r1,909	979
33212 22	Automotive uses	37,527	32,977	40,106
33212 23	Machinery uses			
33212 79	Other ductile iron castings (except pressure pipe and fittings):	22,539	r20,859	34,097
	For sale	18,580	16,574	a16,326
	For own use			
	Gray iron castings	429,866	r430,874	r397,740
	For sale	217,606	230,830	264,324
	For own use	212,260	r200,044	r133,416
33216 11	Molds for heavy steel ingots:	44,744	r35,588	62,013
	For sale	17,686	r21,432	r30,721
	For own use			
	Gray iron pressure pipe and fittings:[2]	6,417	5,807	6,433
33217 44	Under 14 inches (inside diameter)	a1,661	a1,270	a1,447
33217 45	14 inches and over (inside diameter)			
33218 00	Gray iron soil pipe and fittings[2]	37,895	36,834	38,815
33219 39	Automotive uses	142,479	r133,355	r73,108
33219 41	Construction and utility castings	31,889	r32,627	r26,265
33219 97	Other gray iron castings (including white iron castings):	82,362	83,777	106,843
	For sale	64,733	60,184	r52,095
	For own use			
	Malleable iron castings	41,449	36,330	46,571
	For sale	13,779	13,489	16,917
	For own use	27,670	22,841	r29,654
33221 31	Standard malleable[3]	19,165	21,238	r26,142
33221 21	Pearlitic malleable[3]	22,284	15,092	20,429
	Steel castings (except investment)	52,765	53,576	61,171
	For sale[4]	51,886	52,679	60,009
	For own use	879	897	1,162
	Carbon steel	40,409	38,133	42,313
	Railroad specialties[5]	23,801	21,811	25,654
33252 16	Side frames, bolsters, couplers, and yokes[5]	6,437	6,126	8,641
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[4]			
33252 29	Other carbon steel railway and transit rolling stock castings:	17,364	15,685	17,013
	For sale			
	For own use			
33252 39	Other carbon steel castings, including rolls for rolling mills:	16,501	r16,322	a16,521
	For sale	107	88	b138
	For own use			
	Alloy (except high alloy) steel castings	5,680	r7,564	8,242
33255 51	Railway specialties[5]	1,214	r2,103	a1,876
33255 57	Other alloy steel castings, including rolls for rolling mills:	a4,466	a r5,461	b6,366
	For sale			
	For own use			
33254 26	High alloy	b(6,676)	b r(7,879)	a(10,616)
	For sale			
	For own use			

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

( ) Data in parenthesis have associated standard errors of 15 percent or greater. A discussion of standard error appears in the text under "Reliability of Data."

(NA) Not available. [r]Revised by 5 percent or more from previously published figures.

[1]January data reprinted to reflect the data changes to gray iron and malleable iron castings.
[2]Does not include machined, threaded, or assembled fittings.
[3]Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[4]Shipments for sale contain a small amount of shipments for own use.
[5]Shipments include a small quantity of railway specialities for own use.

Table 3. STANDARD ERROR AS A PERCENT OF ESTIMATE FOR SHIPMENTS OF IRON AND STEEL CASTINGS: MARCH 1986

Product code	Product description	Standard Error
	Ductile (nodular) iron, compacted graphite castings, and gray iron	(NA)
	For sale	2
	For own use	(NA)
	Ductile (nodular) iron castings	(NA)
	For sale	2
	For own use	(NA)
	Ductile iron pressure pipe and fittings:	
33211 31	Under 14 inches (inside diameter)	1
33211 35	14 inches and over (inside diameter)	1
33212 24	Construction and utility castings	6
33212 22	Automotive uses	([1])
33212 23	Machinery uses	14
33212 79	Other ductile iron castings (except pressure pipe and fittings):	
	For sale	9
	For own use	1
	Gray iron castings	(NA)
	For sale	8
	For own use	(NA)
33216 11	Molds for heavy steel ingots:	
	For sale	([1])
	For own use	([1])
	Gray iron pressure pipe and fittings:	
33217 44	Under 14 inches (inside diameter)	13
33217 45	14 inches and over (inside diameter)	11
33218 00	Gray iron soil pipe and fittings	5
33219 39	Automotive uses	12
33219 41	Construction and utility castings	14
33219 97	Other gray iron castings (including white iron castings):	
	For sale	11
	For own use	2
	Malleable iron castings	2
	For sale	6
	For own use	7
33221 31	Standard malleable	7
33221 21	Pearlitic malleable	4
	Steel castings (except investment)	5
	For sale	5
	For own use	6
	Carbon steel	7
	Railroad specialties	10
33252 16	Side frames, bolsters, couplers, and yokes	8
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams	1
33252 29	Other carbon steel railway and transit rolling stock castings:	
	For sale	1
	For own use	2
33252 39	Other carbon steel castings, including rolls for rolling mills:	
	For sale	11
	For own use	10
	Alloy (except high alloy) steel castings	9
33255 51	Railway specialties	2
33255 57	Other alloy steel castings, including rolls for rolling mills:	
	For sale	10
	For own use	11
33254 26	High Alloy	23
	For sale	21
	For own use	25

Note: Data with associated standard error of 15 percent or greater are shown in parentheses in table 2. Each year, the standard errors are published one time, usually in January, and apply for the remainder of the year.

(NA) Not available.

[1] All known producers are included for this item; therefore, the standard error of estimate does not apply. See "Reliability of Data" for a discussion of standard error of estimates.

Table 4. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986 AND 1985

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1,2]	Percent exports to manufacturers' shipments	Imports for consumption[1,3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
March	123,056	19,227	15.6	2,286	106,115	2.2
February	111,297	1,097	1.0	1,832	112,032	1.6
January	116,900	1,665	1.4	2,135	117,370	1.8
1985						
December	96,717	3,149	3.3	1,726	95,294	1.8
November	156,913	1,339	0.7	1,468	157,042	0.9
October	204,540	1,631	0.8	1,873	204,782	0.9
September	162,690	3,024	1.9	(NA)	(NA)	(NA)
August	202,593	1,808	1.0	2,413	203,198	1.2
July	214,503	765	(Z)	2,398	216,136	1.0
June	179,661	1,712	1.0	8,830	186,779	4.7
May	201,804	1,534	1.0	1,950	202,220	1.0
April	189,414	4,314	2.3	19,974	205,074	9.7
March	154,767	18,088	11.7	2,008	138,687	1.4
February	116,218	870	1.0	1,226	116,574	1.1
January	120,722	997	1.0	2,431	122,156	2.0

See footnotes at end of table 4.

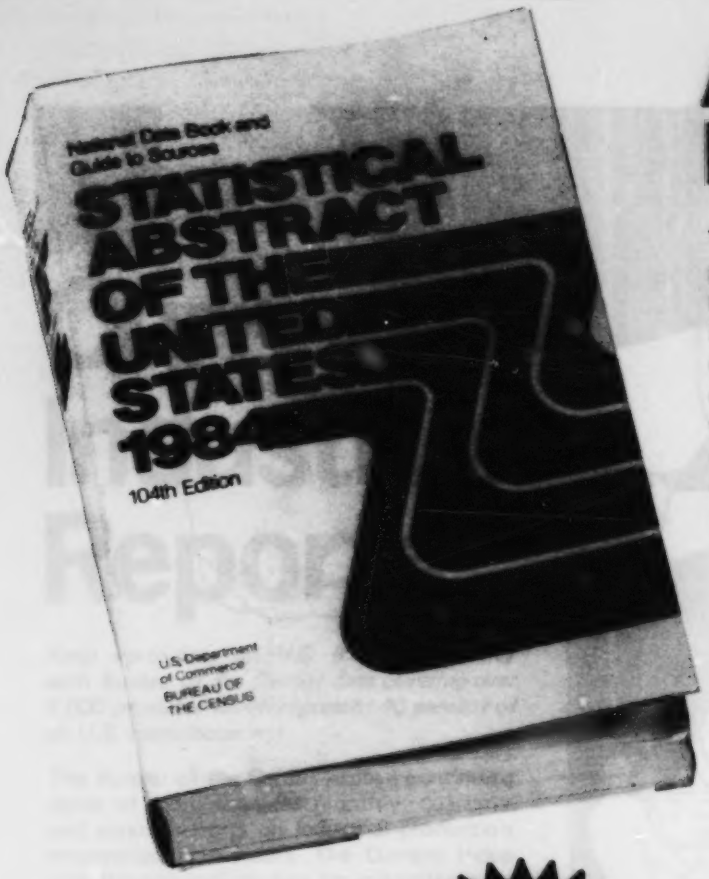
Table 5. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1,2]	Percent exports to manufacturers' shipments	Imports for consumption[1,3]	Apparent consumption[4]	Percent imports to apparent consumption
	MARCH 1986						
33216 11	Molds for heavy steel ingots[5]	44,744	1,647	3.7	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	37,895	17,682	46.6			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	8,078			2,286	109,115	2.1
			1,545	1.8			
3321A 31 and 35	Ductile iron	80,083					
	FEBRUARY 1986						
33216 11	Molds for heavy steel ingots[5]	55,588	1,629	2.9	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	36,834	109	0.3			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	7,077			1,832	112,031	1.6
			988	1.3			
3321A 31 and 35	Ductile iron	67,385					
	JANUARY 1986[6]						
33216 11	Molds for heavy steel ingots[5]	62,031	2,362	3.8	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	38,815	415	1.1			
	Pressure pipe and fittings:						
33217 44	Gray iron	7,880			2,135	117,370	1.8
			1,250	1.6			
3321A 31 and 35	Ductile iron	70,205					

(NA) Not available. (Z) Less than one-half of 1 percent.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.
[6] See footnote 1 table 2.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M33A(86)-4

CURRENT INDUSTRIAL REPORTS

Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

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APRIL 1986
M33A(86)-4
Issue June 1986

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Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
April	r222	r178	43	497	263	235	49	19	30	81	80	1
March	r176	r137	39	427	214	r213	41	r14	r27	50	49	1
February	140	r105	35	r431	231	r200	r36	r13	r23	54	53	1
January	162	121	41	r398	264	r134	47	17	30	61	60	1
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[2] See footnote 2 at end of table 2.

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Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	April 1986	March 1986
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	719,172	603,145
	For sale	440,785	351,877
	For own use	278,387	251,268
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	221,619	r176,548
	For sale	178,205	r137,886
	For own use	43,414	38,662
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	77,403	41,150
33211 35	14 inches and over (inside diameter)	60,592	r56,624
33212 24	Construction and utility castings	b2,029	b2,064
33212 22	Automotive uses	44,118	37,758
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):		
	For sale	21,948	21,071
	For own use	20,784	17,808
	Gray iron castings	497,553	426,597
	For sale	262,580	213,991
	For own use	234,973	212,606
33216 11	Molds for heavy steel ingots:		
	For sale	56,899	44,830
	For own use	25,313	17,686
	Gray iron pressure pipe and fittings:[1]		
33217 44	Under 14 inches (inside diameter)	8,011	6,207
33217 45	14 inches and over (inside diameter)	a1,937	a1,976
33218 00	Gray iron soil pipe and fittings[1]	a43,349	r33,160
33219 39	Automotive uses	162,297	142,616
33219 41	Construction and utility castings	42,030	32,186
33219 97	Other gray iron castings (including white iron castings):		
	For sale	a89,891	82,858
	For own use	67,826	65,078
	Malleable iron castings	49,120	41,195
	For sale	18,809	13,699
	For own use	30,311	27,496
33221 31	Standard malleable[2]	23,982	18,911
33221 21	Pearlitic malleable[2]	b25,138	b22,284
	Steel castings (except investment)	81,440	50,088
	For sale[3]	80,337	49,209
	For own use	1,103	879
	Carbon steel	41,034	37,253
	Railroad specialties[4]	25,148	23,802
33252 16	Side frames, bolsters, couplers, and yokes[4]	8,043	6,438
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]		
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	17,105	17,364
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:		
	For sale	a15,736	r13,344
	For own use	a150	107
	Alloy (except high alloy) steel castings	6,417	5,683
33255 51	Railway specialties[4]	1,544	1,178
33255 57	Other alloy steel castings, including rolls for rolling mills:		
	For sale	4,873	4,505
	For own use		
33254 26	High alloy	b(8,841)	b(7,116)
	For sale		
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): a25 to 50 percent of this item is estimated. bOver 50 percent of this item is estimated.

( ) Data in parenthesis have associated standard errors of 15 percent or greater. A discussion of standard error appears in the text under "Reliability of Data."

(NA) Not available. rRevised by 5 percent or more from previously published figures.

[1] Does not include machined, threaded, or assembled fittings.
[2] Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3] Shipments for sale contain a small amount of shipments for own use.
[4] Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986 AND 1985

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
April	r191,292	1,742	0.9	1,792	r191,342	0.9
March	r139,117	19,227	13.8	2,286	r122,176	1.9
February	111,297	1,097	1.0	1,832	112,032	1.6
January	116,900	1,665	1.4	2,135	117,370	1.8
1985						
December	96,717	3,149	3.3	1,726	95,294	1.8
November	156,913	1,339	0.7	1,468	157,042	0.9
October	204,540	1,631	0.8	1,873	204,782	0.9
September	162,690	3,024	1.9	(NA)	(NA)	(NA)
August	202,593	1,808	1.0	2,413	203,198	1.2
July	214,503	765	(Z)	2,398	216,136	1.0
June	179,661	1,712	1.0	8,830	186,779	4.7
May	201,804	1,534	1.0	1,950	202,220	1.0
April	189,414	4,314	2.3	19,974	205,074	9.7
March	154,767	18,088	11.7	2,008	138,687	1.4
February	116,218	870	1.0	1,226	116,574	1.1
January	120,722	997	1.0	2,431	122,156	2.0

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	APRIL 1986						
33216 11	Molds for heavy steel ingots[5]	56,899	1,542	2.7	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	43,349	962	2.2			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	9,948			1,792	191,342	0.9
			780	0.5			
3321A 31 and 35	Ductile iron	137,995					
	MARCH 1986						
33216 11	Molds for heavy steel ingots[5]	44,830	1,647	3.7	(NA)	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	33,160	17,682	53.3			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	8,183			2,286	122,176	1.9
			1,545	1.5			
3321A 31 and 35	Ductile iron	97,774					

- Represents zero. (NA) Not available. rRevised by 5 percent or more from previously published figures. (Z) Less than one-half of 1 percent.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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M33A(86)-5

CURRENT INDUSTRIAL REPORTS

Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

MAY 1986

M33A(86)-5
Issued July 1986

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
May	210	164	46	497	268	229	45	16	29	r59	r57	1
April	222	178	43	510	273	237	49	19	30	r61	r60	1
March	176	137	39	427	214	213	41	14	27	50	49	1
February	140	105	35	431	231	200	36	13	23	54	53	1
January	162	121	41	398	264	134	47	17	30	61	60	1
1985												
Total	2,583	1,979	604	7,165	4,068	3,097	378	187	192	889	838	53
December	150	104	46	480	250	230	26	13	13	61	58	3
November	209	163	46	498	266	232	30	14	15	70	68	2
October	257	203	54	639	342	297	33	19	14	70	66	4
September	206	163	43	554	299	255	29	14	16	69	67	3
August	236	196	40	581	349	232	28	14	14	66	63	4
July	244	205	39	548	327	222	26	10	16	62	58	4
June	226	176	50	602	358	244	33	16	17	74	68	6
May	252	194	58	642	383	258	35	17	18	84	79	5
April	240	180	60	689	394	295	35	18	17	85	79	6
March	211	152	59	667	378	289	37	19	18	86	80	6
February	171	119	52	604	337	267	32	16	17	82	76	6
January	181	124	57	661	386	276	34	17	17	80	76	4

rRevised by 5 percent or more from previously published figures.

[1]Detail may not add to totals due to independent rounding.
[2]See footnote 2 at end of table 2.

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Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.
For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

C 3.158:

Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	May 1986	April 1986
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	706,309	731,359
	For sale	431,235	451,140
	For own use	275,074	280,219
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	209,755	221,718
	For sale	163,576	178,304
	For own use	46,179	43,414
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	[a]78,186	77,403
33211 35	14 inches and over (inside diameter)	[a]46,379	60,592
33212 24	Construction and utility castings	[b]1,729	[b]2,029
33212 22	Automotive uses	36,626	[r]38,804
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):		
	For sale	21,967	22,050
	For own use	24,868	20,840
	Gray iron castings	496,554	509,641
	For sale	267,659	272,836
	For own use	228,895	236,805
33216 11	Molds for heavy steel ingots:		
	For sale	56,758	[r]60,338
	For own use	21,557	25,723
	Gray iron pressure pipe and fittings:[1]		
33217 44	Under 14 inches (inside diameter)	[b]7,754	[a]8,011
33217 45	14 inches and over (inside diameter)	[b]2,160	[a]1,937
33218 00	Gray iron soil pipe and fittings[1]	38,889	[r]45,569
33219 39	Automotive uses	160,861	165,521
33219 41	Construction and utility castings	46,410	44,637
33219 97	Other gray iron castings (including white iron castings):		
	For sale	[a]93,453	[a]90,216
	For own use	[b]68,712	67,689
	Malleable iron castings	44,645	49,120
	For sale	[a]16,016	[a]18,809
	For own use	[a]28,629	[a]30,311
33221 31	Standard malleable[2]	[a]21,304	[a]23,982
33221 21	Pearlitic malleable[2]	[a]23,341	[b]25,138
	Steel castings (except investment)	58,613	[r]61,452
	For sale[3]	57,290	[r]60,170
	For own use	1,323	1,282
	Carbon steel	42,801	42,547
	Railroad specialties[4]	27,553	25,075
33252 16	Side frames, bolsters, couplers, and yokes[4]	7,935	7,970
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]		
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	19,618	17,105
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:		
	For sale	15,149	[a]17,300
	For own use	99	172
	Alloy (except high alloy) steel castings	7,740	[r]10,040
33255 51	Railway specialties[4]	1,344	1,300
33255 57	Other alloy steel castings, including rolls for rolling mills:		
	For sale	6,396	[r]8,740
	For own use		
33254 26	High alloy	(8,072)	8,865
	For sale		
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

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[1]Does not include machined, threaded, or assembled fittings.
[2]Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3]Shipments for sale contain a small amount of shipments for own use.
[4]Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986 AND 1985

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
May	173,368	10,422	6.0	2,229	165,175	1.3
April	193,512	1,742	0.9	1,792	193,562	0.9
March	139,117	19,227	13.8	2,286	122,176	1.9
February	111,297	1,097	1.0	1,832	112,032	1.6
January	116,900	1,665	1.4	2,135	117,370	1.8
1985						
December	96,717	3,149	3.3	1,726	95,294	1.8
November	156,913	1,339	0.7	1,468	157,042	0.9
October	204,540	1,631	0.8	1,873	204,782	0.9
September	162,690	3,024	1.9	(NA)	(NA)	(NA)
August	202,593	1,808	1.0	2,413	203,198	1.2
July	214,503	765	(Z)	2,398	216,136	1.0
June	179,661	1,712	1.0	8,830	186,779	4.7
May	201,804	1,534	1.0	1,950	202,220	1.0

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	MAY 1986						
33216 11	Molds for heavy steel ingots[5]	56,758	821	1.4	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	38,889	9,399	24.2			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	9,914	1,023	0.8	2,229	165,175	1.3
3321A 31 and 35	Ductile iron	124,565					
	APRIL 1986						
33216 11	Molds for heavy steel ingots[5]	60,338	1,542	2.6	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	45,569	962	2.1			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	9,948	780	0.5	1,792	193,562	0.9
3321A 31 and 35	Ductile iron	137,995					

- Represents zero. (NA) Not available. [r]Revised by 5 percent or more from previously published figures. (Z) Less than one-half of 1 percent.

[1]For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.

[2]Source: Bureau of Census report EM 546, U.S. Exports.

[3]Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.

[4]Apparent consumption is derived by subtracting exports from the total of shipments plus imports.

[5]Includes converters and parts for casting machines.

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CURRENT INDUSTRIAL REPORTS

Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

JUNE 1986

M33A(86)-6
Issued August 1986

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

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Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
June	202	164	38	409	227	182	39	10	29	58	57	1
May	204	167	r37	r457	267	r190	r41	16	r25	r64	r62	r2
April	222	178	43	510	273	237	49	19	30	61	60	1
March	176	137	39	427	214	213	41	14	27	50	49	1
February	140	105	35	431	231	200	36	13	23	54	53	1
January	162	121	41	398	264	134	47	17	30	61	60	1
1985												
Total	2,383	1,979	604	7,165	4,068	3,097	378	187	192	889	838	53
December	150	104	46	480	250	230	26	13	13	61	58	3
November	209	163	46	498	266	232	30	14	15	70	68	2
October	257	203	54	639	342	297	33	19	14	70	66	4
September	206	163	43	554	299	255	29	14	16	69	67	3
August	236	196	40	581	349	232	28	14	14	66	63	4
July	244	205	39	548	327	222	26	10	16	62	58	4
June	226	176	50	602	358	244	33	16	17	74	68	6
May	252	194	58	642	383	258	35	17	18	84	79	5
April	240	180	60	689	394	295	35	18	17	85	79	6
March	211	152	59	667	378	289	37	19	18	86	80	6
February	171	119	52	604	337	267	32	16	17	82	76	6
January	181	124	57	661	385	276	34	17	17	80	76	4

[r] Revised by 5 percent or more from previously published figures.

[1] Detail may not add to totals due to independent rounding.
[2] See footnote 2 at end of table 2.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.

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Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	June 1986	May 1986
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	611,588	r660,710
	For sale	391,442	434,075
	For own use	220,146	r226,635
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	202,461	203,647
	For sale	164,770	166,821
	For own use	37,691	r36,826
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	75,829	75,211
33211 35	14 inches and over (inside diameter)	53,514	r54,531
33212 24	Construction and utility castings	1,902	b1,729
33212 22	Automotive uses	34,287	r33,046
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):		
	For sale	19,139	21,424
	For own use	17,790	r17,706
	Gray iron castings	409,127	r457,063
	For sale	226,672	r267,254
	For own use	182,455	r189,809
33216 11	Molds for heavy steel ingots:		
	For sale	29,342	56,220
	For own use	16,042	21,557
	Gray iron pressure pipe and fittings:[1]		
33217 44	Under 14 inches (inside diameter)	a6,484	a r7,507
33217 45	14 inches and over (inside diameter)	a2,056	a r2,016
33218 00	Gray iron soil pipe and fittings[1]	37,183	38,959
33219 39	Automotive uses	141,806	r145,611
33219 41	Construction and utility castings	43,341	48,434
33219 97	Other gray iron castings (including white iron castings):		
	For sale	a90,944	a93,063
	For own use	41,929	r43,696
	Malleable iron castings	39,093	r40,674
	For sale	10,241	15,481
	For own use	a28,852	a r25,193
33221 31	Standard malleable[2]	16,542	r20,227
33221 21	Pearlitic malleable[2]	b22,551	b r20,447
	Steel castings (except investment)	58,026	r64,004
	For sale[3]	56,610	r62,370
	For own use	1,416	r1,634
	Carbon steel	41,315	r45,399
	Railroad specialties[4]	24,496	27,540
33252 16	Side frames, bolsters, couplers, and yokes[4]	7,174	7,925
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]		
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	17,322	19,615
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:		
	For sale	16,784	r17,754
	For own use	35	99
	Alloy (except high alloy) steel castings	9,035	r10,331
33255 51	Railway specialties[4]	2,407	r2,673
33255 57	Other alloy steel castings, including rolls for rolling mills:		
	For sale	a6,628	a r7,658
	For own use		
33254 26	High alloy	b(7,676)	b(8,274)
	For sale		
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

( ) Data in parenthesis have associated standard errors of 15 percent or greater. A discussion of standard error appears in the text under "Reliability of Data."

(NA) Not available. [r]Revised by 5 percent or more from previously published figures.

[1] Does not include machined, threaded, or assembled fittings.
[2] Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3] Shipments for sale contain a small amount of shipments for own use.
[4] Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986 AND 1985

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
June	175,066	955	0.6	3,357	177,428	1.9
May	178,224	10,422	7.9	2,229	170,031	1.3
April	193,512	1,742	0.9	1,792	193,562	0.9
March	139,117	19,227	13.8	2,286	122,176	1.9
February	111,297	1,097	1.0	1,832	112,032	1.6
January	116,900	1,665	1.4	2,135	117,370	1.8
1985						
December	96,717	3,149	3.3	1,726	95,294	1.8
November	156,913	1,339	0.7	1,468	157,042	0.9
October	204,540	1,631	0.8	1,873	204,782	0.9
September	162,690	3,024	1.9	(NA)	(NA)	(NA)
August	202,593	1,808	1.0	2,413	203,198	1.2
July	214,503	765	(Z)	2,398	216,136	1.0
June	179,661	1,712	1.0	8,830	186,779	4.7

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	JUNE 1986						
33216 11	Molds for heavy steel ingots[5]	29,342	619	2.1	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	37,183	263	0.7			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	8,540	732	0.5	3,357	177,428	1.9
3321A 31 and 35	Ductile iron	129,343					
	MAY 1986						
33216 11	Molds for heavy steel ingots[5]	56,220	821	1.5	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	38,959	9,399	24.1			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	9,523	1,023	0.7	2,229	170,031	1.3
3321A 31 and 35	Ductile iron	129,742					

- Represents zero. (NA) Not available. (Z) Less than one-half of 1 percent.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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M33A(86)-7

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Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

JULY 1986
M33A(86)-7
Issued September 1986

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Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
July	206	173	33	365	215	150	37	9	28	53	51	2
June	202	165	37	408	226	182	39	10	29	r55	r54	1
May	204	167	37	457	267	190	41	16	25	62	60	2
April	222	178	43	510	273	237	49	19	30	61	60	1
March	176	137	39	427	214	213	41	14	27	50	49	1
February	140	105	35	431	231	200	36	13	23	54	53	1
January	162	121	41	398	264	134	47	17	30	61	60	1
1985												
Total	2,583	1,979	604	7,165	4,068	3,097	378	187	192	889	838	53
December	150	104	46	480	250	230	26	13	13	61	58	3
November	209	163	46	498	266	232	30	14	15	70	68	2
October	257	203	54	639	342	297	33	19	14	70	66	4
September	206	163	43	554	299	255	29	14	16	69	67	3
August	236	196	40	581	349	232	28	14	14	66	63	4
July	244	205	39	548	327	222	26	10	16	62	58	4
June	226	176	50	602	358	244	33	16	17	74	68	6
May	252	194	58	642	383	258	35	17	18	84	79	5
April	240	180	60	689	394	295	35	18	17	85	79	6
March	211	152	59	667	378	289	37	19	18	86	80	6
February	171	119	52	604	337	267	32	16	17	82	76	6
January	181	124	57	661	385	276	34	17	17	80	76	4

rRevised by 5 percent or more from previously published figures.

[1]Detail may not add to totals due to independent rounding.
[2]See footnote 2 at end of table 2.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.
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C 3.158:

Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	July 1986	June 1986
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	570,633	610,533
	For sale	387,400	390,989
	For own use	183,226	219,544
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	205,535	201,730
	For sale	172,674	164,638
	For own use	32,861	37,092
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	90,073	75,711
33211 35	14 inches and over (inside diameter)	[a]47,614	53,514
33212 24	Construction and utility castings	[a]1,744	[a]1,902
33212 22	Automotive uses	31,368	34,289
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):		
	For sale	[a]20,080	19,124
	For own use	14,656	17,190
	Gray iron castings	365,098	408,803
	For sale	214,733	226,351
	For own use	150,365	182,452
33216 11	Molds for heavy steel ingots:		
	For sale	[a]33,696	[a]29,341
	For own use	[a]16,445	16,042
	Gray iron pressure pipe and fittings:[1]		
33217 44	Under 14 inches (inside diameter)	6,550	6,467
33217 45	14 inches and over (inside diameter)	[a]1,945	2,037
33218 00	Gray iron soil pipe and fittings[1]	[a]38,867	37,131
33219 39	Automotive uses	117,530	143,129
33219 41	Construction and utility castings	44,712	44,053
33219 97	Other gray iron castings (including white iron castings):		
	For sale	69,468	88,672
	For own use	35,885	41,931
	Malleable iron castings	37,127	39,097
	For sale	8,739	10,241
	For own use	[a]28,388	[a]28,856
33221 31	Standard malleable[2]	12,372	16,544
33221 21	Pearlitic malleable[2]	[a]24,755	[a]22,553
	Steel castings (except investment)	52,526	[r]55,421
	For sale[3]	50,774	[r]53,991
	For own use	1,752	1,430
	Carbon steel	38,227	[r]39,768
	Railroad specialties[4]	28,007	[r]25,911
33252 16	Side frames, bolsters, couplers, and yokes[4]	8,134	7,178
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]		
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	19,873	[r]18,733
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:	[a]10,049	[r]13,811
	For sale	171	[r]46
	For own use		
	Alloy (except high alloy) steel castings	8,246	[r]8,332
	Railway specialties[4]	2,733	2,407
33255 51	Other alloy steel castings, including rolls for rolling mills:		
33255 57	For sale	[a]5,513	[a r]5,925
	For own use		
33254 26	High alloy	[b](6,053)	[b r](7,321)
	For sale		
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

( ) Data in parenthesis have associated standard errors of 15 percent or greater. A discussion of standard error appears in the text under "Reliability of Data."

(NA) Not available. [r]Revised by 5 percent or more from previously published figures.

[1]Does not include machined, threaded, or assembled fittings.
[2]Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3]Shipments for sale contain a small amount of shipments for own use.
[4]Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986 AND 1985

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
July	185,049	769	0.4	2,949	187,229	1.6
June	174,860	955	0.6	3,357	177,222	1.9
May	178,224	10,422	7.9	2,229	170,031	1.3
April	193,512	1,742	0.9	1,792	193,562	0.9
March	139,117	19,227	13.8	2,286	122,176	1.9
February	111,297	1,097	1.0	1,832	112,032	1.6
January	116,900	1,665	1.4	2,135	117,370	1.8
1985						
December	96,717	3,149	3.3	1,726	95,294	1.8
November	156,913	1,339	0.7	1,468	157,042	0.9
October	204,540	1,631	0.8	1,873	204,782	0.9
September	162,690	3,024	1.9	(NA)	(NA)	(NA)
August	202,593	1,808	1.0	2,413	203,198	1.2
July	214,503	765	(Z)	2,398	216,136	1.0

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	JULY 1986						
33216 11	Molds for heavy steel ingots[5]	33,696	2,057	6.1	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	38,867	95	0.2	2,949	187,229	1.6
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	8,495	674	0.5			
3321A 31 and 35	Ductile iron	137,687					
	JUNE 1986						
33216 11	Molds for heavy steel ingots[5]	29,341	619	2.1	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	37,131	263	0.7	3,357	177,222	1.9
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	8,504	732	0.5			
3321A 31 and 35	Ductile iron	129,225					

- Represents zero. (NA) Not available. (Z) Less than one-half of 1 percent.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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M33A(86)-8
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The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
August	214	187	27	362	221	141	33	12	21	50	49	1
July	206	173	33	365	215	150	38	9	29	52	51	1
June	202	165	37	408	226	182	39	10	29	r55	r54	1
May	204	167	37	457	267	190	41	16	25	62	60	2
April	222	178	43	510	273	237	49	19	30	61	60	1
March	176	137	39	427	214	213	41	14	27	50	49	1
February	140	105	35	431	231	200	36	13	23	54	53	1
January	162	121	41	398	264	134	47	17	30	61	60	1
1985												
Total	2,583	1,979	604	7,165	4,068	3,097	378	187	192	889	838	53
December	150	104	46	480	250	230	26	13	13	61	58	3
November	209	163	46	498	266	232	30	14	15	70	68	2
October	257	203	54	639	342	297	33	19	14	70	66	4
September	206	163	43	554	299	255	29	14	16	69	67	3
August	236	196	40	581	349	232	28	14	14	66	63	4
July	244	205	39	548	327	222	26	10	16	62	58	4
June	226	176	50	602	358	244	33	16	17	74	68	6
May	252	194	58	642	383	258	35	17	18	84	79	5
April	240	180	60	689	394	295	35	18	17	85	79	6
March	211	152	59	667	378	289	37	19	18	86	80	6
February	171	119	52	604	337	267	32	16	17	82	76	6
January	181	124	57	661	385	276	34	17	17	80	76	4

rRevised by 5 percent or more from previously published figures.

[1]Detail may not add to totals due to independent rounding.
[2]See footnote 2 at end of table 2.

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Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	August 1986	July 1986
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	575,922	570,633
	For sale	407,648	387,400
	For own use	168,274	182,623
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	214,104	205,722
	For sale	186,882	172,673
	For own use	27,222	33,029
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	84,382	90,073
33211 35	14 inches and over (inside diameter)	42,414	47,614
33212 24	Construction and utility castings	[a]1,897	[a]1,744
33212 22	Automotive uses	29,760	31,368
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):		
	For sale	42,869	20,099
	For own use	12,782	14,824
	Gray iron castings	361,818	364,384
	For sale	220,766	214,790
	For own use	141,052	149,594
33216 11	Molds for heavy steel ingots:		
	For sale	[a]20,549	[a]33,696
	For own use	14,949	[a]12,539
	Gray iron pressure pipe and fittings:[1]		
33217 44	Under 14 inches (inside diameter)	[b]7,526	[b]6,549
33217 45	14 inches and over (inside diameter)	[b]1,974	[b]2,003
33218 00	Gray iron soil pipe and fittings[1]	41,743	38,785
33219 39	Automotive uses	114,859	117,603
33219 41	Construction and utility castings	45,576	44,435
33219 97	Other gray iron castings (including white iron castings):		
	For sale	84,059	71,616
	For own use	[a]30,583	[a]36,158
	Malleable iron castings	32,103	37,285
	For sale	11,512	8,658
	For own use	[a]20,591	[a]28,627
33221 31	Standard malleable[2]	16,115	12,332
33221 21	Pearlitic malleable[2]	[a]15,988	[a]24,953
	Steel castings (except investment)	49,833	52,239
	For sale[3]	48,866	50,890
	For own use	967	[r]1,349
	Carbon steel	37,333	39,298
	Railroad specialties[4]	21,699	28,007
33252 16	Side frames, bolsters, couplers, and yokes[4]		
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]	6,467	8,134
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	15,262	19,873
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:		
	For sale	[a]15,457	[r]11,123
	For own use	147	168
	Alloy (except high alloy) steel castings	6,474	[r]6,752
33255 51	Railway specialties[4]	[a]1,161	[r]1,307
33255 57	Other alloy steel castings, including rolls for rolling mills:		
	For sale	[b]5,313	[b]5,445
	For own use		
33254 26	High alloy		
	For sale	([b]6,026)	([b]6,189)
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

( ) Data in parenthesis have associated standard errors of 15 percent or greater. A discussion of standard error appears in the text under "Reliability of Data."

(NA) Not available. [r]Revised by 5 percent or more from previously published figures.

[1] Does not include machined, threaded, or assembled fittings.
[2] Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3] Shipments for sale contain a small amount of shipments for own use.
[4] Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
August	197,335	879	0.5	2,712	199,168	1.4
July	185,024	769	0.4	2,949	187,204	1.6
June	174,860	955	0.6	3,357	177,222	1.9
May	178,224	10,422	7.9	2,229	170,031	1.3
April	193,512	1,742	0.9	1,792	193,562	0.9
March	139,117	19,227	13.8	2,286	122,176	1.9
February	111,297	1,097	1.0	1,832	112,032	1.6
January	116,900	1,665	1.4	2,135	117,370	1.8

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	AUGUST 1986						
33216 11	Molds for heavy steel ingots[5]	20,549	1,746	8.5	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	41,743	66	0.1			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	9,500			2,712	179,872	1.5
3321A 31 and 35	Ductile iron	126,796	813	0.6			
	JULY 1986						
33216 11	Molds for heavy steel ingots[5]	33,696	2,057	6.1	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	38,785	95	0.2			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	8,552			2,949	187,204	1.6
3321A 31 and 35	Ductile iron	137,687	674	0.5			

- Represents zero. (NA) Not available.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.

[2] Source: Bureau of Census report EM 546, U.S. Exports.

[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.

[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.

[5] Includes converters and parts for casting machines.

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Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

SEPTEMBER 1986

M33A(86)-9
Issued December 1986

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

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Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
September	201	165	35	388	205	182	38	15	23	69	66	3
August	205	178	27	357	217	140	31	11	20	66	64	3
July	195	164	31	373	219	154	35	8	27	65	62	4
June	192	157	35	397	220	177	37	10	27	70	66	4
May	194	158	35	447	261	186	39	15	24	83	79	4
April	211	170	41	485	259	226	47	18	29	84	81	3
March	170	132	38	418	228	191	39	13	26	63	61	2
February	136	103	33	420	225	196	35	13	22	71	68	2
January	158	119	40	428	245	183	43	15	28	79	76	3
1985[2]												
Total	2,608	1,907	701	6,111	3,441	2,670	376	198	178	940	904	36
December	153	100	53	412	233	179	25	13	12	66	64	2
November	209	156	53	428	225	203	30	17	13	73	70	3
October	257	195	62	534	288	246	34	18	16	73	69	4
September	206	157	49	476	253	223	29	15	14	77	75	2
August	244	188	56	498	295	203	27	15	12	70	67	3
July	241	196	45	470	275	195	26	14	12	68	66	2
June	227	170	57	513	300	213	33	17	16	75	72	3
May	253	187	66	548	323	225	35	18	17	88	84	4
April	243	174	69	590	333	257	35	18	17	89	86	3
March	215	148	67	576	323	253	37	19	18	91	87	4
February	174	115	59	510	277	233	31	16	15	86	83	3
January	186	121	65	556	316	240	34	18	16	84	81	3

[1] Detail may not add to totals due to independent rounding.
[2] Data for 1986 and 1985 have been revised based on the 1985 summary report, M33A(86)-13, issued September 1986. Revised annual data for 1979 to 1984 will be shown in the October 1986 report to be issued later.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.
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C 3.158:

Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	January	February	March	April	May	June	July	August	September
	Compacted graphite castings, ductile (nodular) iron, and gray iron.	708,662	661,658	690,698	843,727	702,734	695,911	668,021	658,876	695,376
	For sale	455,256	408,612	433,516	527,861	512,974	452,086	452,289	469,818	451,218
	For own use	253,406	253,246	257,182	315,866	249,760	243,827	215,732	189,058	244,158
33210 10	Compacted graphite castings	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	For sale	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	For own use	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	Ductile (nodular) iron castings	158,252	135,859	169,787	211,393	193,777	191,883	194,960	205,137	200,520
	For sale	118,745	102,627	132,164	170,262	158,458	156,561	163,576	178,196	165,216
	For own use	39,507	33,232	37,623	41,131	35,319	35,322	31,384	26,941	35,304
	Ductile iron pressure pipe and fittings:[1]									
33211 31	Under 14 inches (inside diameter)	36,780	32,566	37,278	70,120	68,136	68,592	81,606	76,656	52,677
33211 35	14 inches and over (inside diameter)	26,544	28,193	50,782	54,342	48,907	47,998	42,708	38,066	44,255
33212 24	Construction and utility castings	1,076	2,098	2,269	2,230	1,901	2,091	1,917	2,085	1,676
33212 22	Automotive uses									
33212 23	Machinery uses	93,852	73,002	79,458	84,701	74,833	73,202	68,731	88,554	101,912
33212 79	Other ductile iron castings (except pressure pipe and fittings):									
	For sale									
	For own use									
	Gray iron castings	428,404	420,722	418,941	485,373	447,243	397,331	372,677	356,959	387,584
	For sale	245,657	234,651	227,828	259,175	261,158	219,906	218,703	216,952	205,088
	For own use	182,947	186,071	191,113	226,198	186,085	177,425	153,974	140,007	182,496
33216 11	Molds for heavy steel ingots:									
	For sale	57,629	31,950	40,067	53,227	50,089	28,670	35,993	23,330	22,248
	For own use	24,750	21,432	17,886	25,723	21,557	16,042	12,539	14,949	19,506
	Gray iron pressure pipe and fittings:[1]									
33217 44	Under 14 inches (inside diameter)	7,374	6,656	7,115	9,183	8,606	7,413	7,507	8,627	7,325
33217 45	14 inches and over (inside diameter)	1,447	1,270	1,976	1,937	2,016	2,037	2,007	1,974	2,289
33218 00	Gray iron soil pipe and fittings[1]	30,459	28,905	28,023	35,764	30,979	29,144	30,444	32,767	32,165
33219 39	Automotive uses	115,275	139,830	145,111	151,230	140,211	138,270	120,850	117,210	130,337
33219 41	Construction and utility castings									
33219 97	Other gray iron castings (including white iron castings):	191,470	170,679	180,963	208,309	194,185	175,755	165,341	158,102	173,714
	For sale									
	For own use									
	Malleable iron castings	43,205	34,835	39,093	46,765	38,765	36,959	34,889	30,618	38,203
	For sale	15,362	12,933	13,000	17,907	14,756	9,681	8,102	10,979	14,894
	For own use	27,843	21,902	26,093	28,858	24,011	27,278	26,787	19,639	23,309
33221 31	Standard malleable[2]	24,801	21,238	19,016	24,116	20,342	16,639	13,605	18,210	18,245
33221 21	Pearlitic malleable[2]	18,404	13,597	20,077	22,649	18,423	20,320	22,484	14,408	19,958
	Steel castings (except investment)	78,801	70,742	62,877	83,949	82,949	69,738	65,495	66,162	69,069
	For sale[3]	75,690	68,201	60,524	80,517	78,604	65,936	61,908	63,591	66,020
	For own use	3,111	2,041	2,353	3,432	4,345	3,802	3,587	2,571	3,049
	Carbon steel	47,479	44,308	40,493	46,181	48,179	41,690	39,239	40,781	40,110
	For sale	22,696	20,119	20,332	19,679	21,588	21,102	21,944	17,462	19,282
	Railroad specialties[4]									
33252 16	Side frames, bolsters, couplers, and yokes[4]	3,786	2,884	2,821	3,429	3,472	3,145	3,565	2,831	3,448
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]									
33252 29	Other carbon steel railway and transit rolling stock castings:									
	For sale	18,910	17,435	17,511	16,250	18,116	17,957	18,379	14,631	15,814
	For own use									
33252 39	Other carbon steel castings, including rolls for rolling mills:	23,511	23,229	18,992	24,623	25,271	19,661	15,863	22,008	19,781
	For sale	1,271	961	1,169	1,879	1,330	927	1,452	1,311	1,867
	For own use									
	Alloy (except high alloy) steel castings	22,821	20,124	16,685	30,668	28,140	22,183	20,039	19,379	21,152
33255 51	Railway specialties[4]	2,110	2,366	2,035	2,246	3,234	2,911	2,328	2,096	2,486
33255 57	Other alloy steel castings, including rolls for rolling mills:									
	For sale	20,711	17,758	14,650	28,422	24,906	19,272	17,711	17,283	18,666
	For own use									
33254 26	High alloy	8,502	6,310	5,699	7,100	6,627	5,865	6,217	6,002	7,807
	For sale	8,502	6,310	5,699	7,100	6,627	5,865	6,217	6,002	7,807
	For own use									

(NA) Not available.

[1] Does not include machined, threaded, or assembled fittings.
[2] Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3] Shipments for sale contain a small amount of shipments for own use.
[4] Shipments include a small quantity of railway specialties for own use.

Table 1. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1,2]	Percent exports to manufacturers' shipments	Imports for consumption[1,3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
September	138,711	(NA)	(NA)	(NA)	(NA)	(NA)
August	157,866	879	0.6	2,712	159,699	1.7
July	164,266	769	0.5	2,949	166,446	1.8
June	155,184	955	0.6	3,357	157,586	2.1
May	158,244	10,422	6.6	2,229	150,051	1.5
April	171,346	1,742	1.0	1,792	171,396	1.0
March	123,174	19,227	15.6	2,286	106,233	2.2
February	97,590	1,097	1.1	1,832	98,325	1.9
January	102,604	1,665	1.6	2,135	103,074	2.1

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1,2]	Percent exports to manufacturers' shipments	Imports for consumption[1,3]	Apparent consumption[4]	Percent imports to apparent consumption
	SEPTEMBER 1986						
33216 11	Molds for heavy steel ingots[5]	22,248	(NA)	(NA)	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	32,165	(NA)	(NA)			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	9,016	(NA)	(NA)	(NA)	(NA)	(NA)
3321A 31 and 35	Ductile iron	96,932					
	AUGUST 1986						
33216 11	Molds for heavy steel ingots[5]	23,330	1,746	7.5	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	32,767	66	0.2			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	10,601	813	0.7	2,712	159,699	1.7
3321A 31 and 35	Ductile iron	114,498					

- Represents zero. (NA) Not available.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-S, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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M33A(86)-10

CURRENT INDUSTRIAL REPORTS

Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

OCTOBER 1986

M33A(86)-10
Issued December 1986

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

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Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
October	219	181	r38	r466	r251	215	47	r15	32	82	79	3
September	190	159	r31	r411	r229	182	36	r11	24	69	66	3
August	205	178	27	357	217	140	31	11	20	66	64	3
July	195	164	31	373	219	154	35	8	27	65	62	4
June	192	157	35	397	220	177	37	10	27	70	66	4
May	194	158	35	447	261	186	39	15	24	83	79	4
April	211	170	41	485	259	226	47	18	29	84	81	3
March	170	132	38	418	228	191	39	13	26	63	61	2
February	136	103	33	420	225	196	35	13	22	71	68	2
January	158	119	40	428	245	183	43	15	28	79	76	3
1985[2]												
Total	2,608	1,907	701	6,111	3,441	2,670	376	198	178	940	904	36
December	153	100	53	412	233	179	25	13	12	66	64	2
November	209	156	53	428	225	203	30	17	13	73	70	3
October	257	195	62	534	288	246	34	18	16	73	69	4
September	206	157	49	476	253	223	29	15	14	77	75	2
August	244	188	56	498	295	203	27	15	12	70	67	3
July	241	196	45	470	275	195	26	14	12	68	66	2
June	227	170	57	513	300	213	33	17	16	75	72	3
May	253	187	66	548	323	225	35	18	17	88	84	4
April	243	174	69	590	333	257	35	18	17	89	86	3
March	215	148	67	576	323	253	37	19	18	91	87	4
February	174	115	59	510	277	233	31	16	15	86	83	3
January	186	121	65	556	316	240	34	18	16	84	81	3

rRevised by 5 percent or more from previously published figures.

[1]Detail may not add to totals due to independent rounding.
[2]Data for 1986 and 1985 have been revised based on the 1985 summary report, M33A(85)-13, issued October 1986.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.

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C 3.158:

Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	October 1986	September 1986
	Compacted graphite, ductile (nodular) iron, and gray iron castings.	729,146	r605,525
	For sale	436,728	r396,012
	For own use	292,418	r209,513
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	218,835	190,286
	For sale	181,195	159,076
	For own use	37,640	r31,210
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	80,841	r62,862
33211 35	14 inches and over (inside diameter)	a41,503	a42,787
33212 24	Construction and utility castings	b1,904	b1,696
33212 22	Automotive uses		
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):	94,587	r82,941
	For sale		
	For own use		
	Gray iron castings	465,521	r411,119
	For sale	250,604	r229,450
	For own use	214,917	181,669
33216 11	Molds for heavy steel ingots:		
	For sale	23,274	r26,244
	For own use	23,513	r18,563
	Gray iron pressure pipe and fittings:[1]		
33217 44	Under 14 inches (inside diameter)	8,000	7,353
33217 45	14 inches and over (inside diameter)	a2,129	b2,229
33218 00	Gray iron soil pipe and fittings[1]	33,091	30,969
33219 39	Automotive uses	157,540	130,326
33219 41	Construction and utility castings		
33219 97	Other gray iron castings (including white iron castings):	217,974	r195,435
	For sale		
	For own use		
	Malleable iron castings	a47,054	a r35,520
	For sale	15,483	r11,066
	For own use	b31,571	b r24,454
33221 31	Standard malleable[2]	20,374	r14,780
33221 21	Pearlitic malleable[2]	b26,680	b20,740
	Steel castings (except investment)	82,036	68,670
	For sale[3]	79,144	66,315
	For own use	2,892	r2,445
	Carbon steel	47,395	40,883
	Railroad specialties[4]	23,567	19,641
33252 16	Side frames, bolsters, couplers, and yokes[4]	3,683	3,297
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]		
33252 29	Other carbon steel railway and transit rolling stock castings:	19,882	16,344
	For sale		
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:	23,085	20,170
	For sale	743	1,072
	For own use		
	Alloy (except high alloy) steel castings	26,823	r19,921
33255 51	Railway specialties[4]	a4,933	a r3,415
33255 57	Other alloy steel castings, including rolls for rolling mills:	21,890	r16,506
	For sale		
	For own use		
33254 26	High alloy	a7,818	a7,956
	For sale		
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): a25 to 50 percent of this item is estimated. b Over 50 percent of this item is estimated.

(NA) Not available. r Revised by 5 percent or more from previously published figures.

[1] [2] Does not include machined, threaded, or assembled fittings.
[3] Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[4] Shipments for sale contain a small amount of shipments for own use.
Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
October	165,564	2,065	1.2	2,095	165,594	1.3
September	r146,200	4,074	2.8	2,041	144,167	1.4
August	157,866	879	0.6	2,712	159,699	1.7
July	164,266	769	0.5	2,949	166,446	1.8
June	155,184	955	0.6	3,357	157,586	2.1
May	158,244	10,422	6.6	2,229	150,051	1.5
April	171,346	1,742	1.0	1,792	171,396	1.0
March	123,174	19,227	15.6	2,286	106,233	2.2
February	97,590	1,097	1.1	1,832	98,325	1.9
January	102,604	1,665	1.6	2,135	103,074	2.1

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	OCTOBER 1986						
33216 11	Molds for heavy steel ingots[5]	23,274	1,511	1.2	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	33,091	117	0.4			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	10,129			2,095	165,594	1.3
3321A 31 and 35	Ductile iron	122,344	1,948	1.5			
	SEPTEMBER 1986						
33216 11	Molds for heavy steel ingots[5]	r26,244	1,015	3.9	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	30,969	124	0.4			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	9,582			2,041	144,167	1.4
3321A 31 and 35	Ductile iron	r105,649	3,950	3.4			

- Represents zero. (NA) Not available. rRevised by 5 percent or more from previously published figures.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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Iron and Steel Castings

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BUREAU OF THE CENSUS

NOVEMBER 1986

M33A(86)-11
Issued January 1987

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
November	196	162	34	385	204	181	41	12	29	r74	r71	3
October	219	182	38	461	r246	215	46	15	31	r77	r74	3
September	190	159	31	411	r229	182	36	11	24	69	66	3
August	205	178	27	357	217	140	31	11	20	66	64	3
July	195	164	31	373	219	154	35	8	27	65	62	4
June	192	157	35	397	220	177	37	10	27	70	66	4
May	194	158	35	447	261	186	39	15	24	83	79	4
April	211	170	41	485	259	226	47	18	29	84	81	3
March	170	132	38	418	228	191	39	13	26	63	61	2
February	136	103	33	420	225	196	35	13	22	71	68	2
January	158	119	40	428	245	183	43	15	[illegible]	79	76	3
1985[2]												
Total	2,608	1,907	701	6,111	3,441	2,670	376	198	178	940	904	36
December	153	100	53	412	233	179	25	13	12	66	64	2
November	209	156	53	428	225	203	30	17	13	73	70	3
October	257	195	62	534	288	246	34	18	16	73	69	4
September	206	157	49	476	253	223	29	15	14	77	75	2
August	244	188	56	498	295	203	27	15	12	70	67	3
July	241	196	45	470	275	195	26	14	12	68	66	2
June	227	170	57	513	300	213	33	17	16	75	72	3
May	253	187	66	548	323	225	35	18	17	88	84	4
April	243	174	69	590	333	257	35	18	17	89	86	3
March	215	148	67	576	323	253	37	19	18	91	87	4
February	174	115	59	510	277	233	31	16	15	86	83	3
January	186	121	65	556	316	240	34	18	16	84	81	3

rRevised by 5 percent or more from previously published figures.

[1]Detail may not add to totals due to independent rounding.
[2]Data for 1986 and 1985 have been revised based on the 1985 summary report, M33A(85)-13, issued October 1986.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division Washington, D.C. 20233, or call Mary Ellickson, (301) 763-5440.
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C 3.158:

Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	November 1986	October 1986
	Compacted graphite, ductile (nodular) iron, and gray iron castings.	581,299	r681,162
	For sale	366,175	428,122
	For own use	215,124	r253,040
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	196,376	219,426
	For sale	161,920	181,806
	For own use	34,456	37,620
	Ductile iron pressure pipe and fittings:[1]		
33211 31	Under 14 inches (inside diameter)	69,801	81,149
33211 35	14 inches and over (inside diameter)	a37,596	41,670
33212 24	Construction and utility castings	a1,883	a1,899
33212 22	Automotive uses		
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):	87,096	94,708
	For sale		
	For own use		
	Gray iron castings	384,923	461,736
	For sale	204,255	246,316
	For own use	180,668	215,420
33216 11	Molds for heavy steel ingots:		
	For sale	24,931	23,416
	For own use	17,309	r25,867
	Gray iron pressure pipe and fittings:		
33217 44	Under 14 inches (inside diameter)	6,435	7,974
33217 45	14 inches and over (inside diameter)	a1,529	a2,120
33218 00	Gray iron soil pipe and fittings[1]	25,636	r31,292
33219 39	Automotive uses	a116,411	158,299
33219 41	Construction and utility castings		
33219 97	Other gray iron castings (including white iron castings):	192,652	212,768
	For sale		
	For own use		
	Malleable iron castings	41,441	46,100
	For sale	12,319	15,033
	For own use	b29,122	b31,067
33221 31	Standard malleable[2]	16,016	19,371
33221 21	Pearlitic malleable[2]	b25,425	b26,729
	Steel castings (except investment)	73,739	r77,181
	For sale[3]	71,008	r74,335
	For own use	2,731	2,846
	Carbon steel	41,569	47,804
	Railroad specialties[4]	19,870	23,455
33252 16	Side frames, bolsters, couplers, and yokes[4]		
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[3]	3,041	3,676
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	a16,829	a r17,079
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:		
	For sale	a20,575	23,502
	For own use	1,124	r847
	Alloy (except high alloy) steel castings	25,751	r21,803
33255 51	Railway specialties[4]	3,770	4,936
33255 57	Other alloy steel castings, including rolls for rolling mills:		
	For sale	21,981	16,867
	For own use		
33254 26	High alloy		
	For sale	b6,419	a7,574
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

(NA) Not available. [r]Revised by 5 percent or more from previously published figures.

[1]Does not include machined, threaded, or assembled fittings.
[2]Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.
[3]Shipments for sale contain a small amount of shipments for own use.
[4]Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
November	141,017	16,304	11.6	2,467	127,180	1.9
October	164,205	2,065	1.3	2,095	164,235	1.3
September	r146,200	4,074	2.8	2,041	144,167	1.4
August	157,866	879	0.6	2,712	159,699	1.7
July	164,266	769	0.5	2,949	166,446	1.8
June	155,184	955	0.6	3,357	157,586	2.1
May	158,244	10,422	6.6	2,229	150,051	1.5
April	171,346	1,742	1.0	1,792	171,396	1.0
March	123,174	19,227	15.6	2,286	106,233	2.2
February	97,590	1,097	1.1	1,832	98,325	1.9
January	102,604	1,663	1.6	2,135	103,074	2.1

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	NOVEMBER 1986						
33216 11	Molds for heavy steel ingots[5]	42,240	772	1.8	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	25,656	11,185	43.6			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	7,964			2,467	127,180	1.9
3321A 31 and 35	Ductile iron	107,397	5,119	4.4			
	OCTOBER 1986						
33216 11	Molds for heavy steel ingots[5]	r49,283	1,511	r3.1	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	31,292	117	0.4			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	10,094			2,095	164,235	1.3
3321A 31 and 35	Ductile iron	122,819	1,948	1.5			

- Represents zero. (NA) Not available. rRevised by 5 percent or more from previously published figures.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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M33A(86)-12

CURRENT INDUSTRIAL REPORTS

Iron and Steel Castings

U.S. Department of Commerce
BUREAU OF THE CENSUS

DECEMBER 1986

M33A(86)-12
Issued February 1987

The statistics in this publication are based on a survey of manufacturers producing ferrous castings. Estimates are included for companies whose reports were not received in time for tabulation. A description of the survey methodology and related information may be found in the January 1986 report for this series, M33A(86)-1, issued April 1986.

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Table 1. SHIPMENTS OF IRON AND STEEL CASTINGS: 1986 AND 1985

(Thousands of short tons)

Month and year	Ductile iron castings			Gray iron castings			Malleable iron castings			Steel castings		
	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use	Total[1]	For sale	For own use
1986[2]												
Total	2,238	1,837	402	4,909	2,733	2,178	478	153	324	877	844	35
December	173	146	27	r357	186	r171	49	12	38	76	75	2
November	195	169	r26	r355	198	r157	41	12	28	74	72	2
October	219	182	38	461	246	215	46	15	31	77	74	3
September	190	159	31	411	229	182	36	11	24	69	66	3
August	205	178	27	357	217	140	31	11	20	66	64	3
July	195	164	31	373	219	154	35	8	27	65	62	4
June	192	157	35	397	220	177	37	10	27	70	66	4
May	194	158	35	447	261	186	39	15	24	83	79	4
April	211	170	41	485	259	226	47	18	29	84	81	3
March	170	132	38	418	228	191	39	13	26	63	61	2
February	136	103	33	420	225	196	35	13	22	71	68	2
January	158	119	40	428	245	183	43	15	28	79	76	3
1985[2]												
Total	2,608	1,907	701	6,111	3,441	2,670	376	198	178	940	904	36
December	153	100	53	412	233	179	25	13	12	66	64	2
November	209	156	53	428	225	203	30	17	13	73	70	3
October	257	195	62	534	288	246	34	18	16	73	69	4
September	206	157	49	476	253	223	29	15	14	77	75	2
August	244	188	56	498	295	203	27	15	12	70	67	3
July	241	196	45	470	275	195	26	14	12	68	66	2
June	227	170	57	513	300	213	33	17	16	75	72	3
May	253	187	66	548	323	225	35	18	17	88	84	4
April	243	174	69	590	333	257	35	18	17	89	86	3
March	215	148	67	576	323	253	37	19	18	91	87	4
February	174	115	59	510	277	233	31	16	15	86	83	3
January	186	121	65	556	316	240	34	18	16	84	81	3

rRevised by 5 percent or more from previously published figures.

[1]Detail may not add to totals due to independent rounding.
[2]Data for 1986 and 1985 have been revised based on the 1985 summary report, M33A(85)-13, issued October 1986.

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C 3.158:

Table 2. SHIPMENTS OF IRON AND STEEL CASTINGS

(Short tons)

Product code	Product description	December 1986	November 1986
	Compacted graphite, ductile (nodular) iron, and gray iron malleable and steel castings	656,902	[1] r666,027
	For sale	418,304	[1] r452,138
	For own use	238,598	[1] r213,889
33210 10	Compacted graphite castings	(NA)	(NA)
	For sale	(NA)	(NA)
	For own use	(NA)	(NA)
	Ductile (nodular) iron castings	173,027	194,855
	For sale	146,443	169,103
	For own use	26,854	r25,752
	Ductile iron pressure pipe and fittings:[2]		
33211 31	Under 14 inches (inside diameter)	53,280	r75,142
33211 35	14 inches and over (inside diameter)	a28,280	a37,596
33212 24	Construction and utility castings	a1,458	a r1,776
33212 22	Automotive uses		
33212 23	Machinery uses		
33212 79	Other ductile iron castings (except pressure pipe and fittings):	90,009	r80,341
	For sale		
	For own use		
	Gray iron castings	357,008	r355,390
	For sale	185,625	198,360
	For own use	171,383	r157,030
33216 11	Molds for heavy steel ingots:		
	For sale	23,626	24,929
	For own use	15,745	17,447
	Gray iron pressure pipe and fittings:[2]		
33217 44	Under 14 inches (inside diameter)	6,349	6,435
33217 45	14 inches and over (inside diameter)	a1,292	a1,529
33218 00	Gray iron soil pipe and fittings[2]	22,115	25,102
33219 39	Automotive uses	115,825	111,764
33219 41	Construction and utility castings		
33219 97	Other gray iron castings (including white iron castings):	172,056	r168,184
	For sale		
	For own use		
	Malleable iron castings	49,479	40,684
	For sale	b11,595	b12,348
	For own use	b37,884	b28,336
33221 31	Standard malleable[3]	18,385	r19,304
33221 21	Pearlitic malleable[3]	b31,094	b r21,380
	Steel castings (except investment)	77,388	75,098
	For sale[4]	74,641	72,327
	For own use	2,747	2,771
	Carbon steel	41,116	41,796
	Railroad specialties[5]	21,180	19,483
33252 16	Side frames, bolsters, couplers, and yokes[5]		
33252 17	Draft gear, snubbers (self-contained unit type), hopper door and frames, and brake beams[4]	2,470	r2,727
33252 29	Other carbon steel railway and transit rolling stock castings:		
	For sale	18,879	r21,286
	For own use		
33252 39	Other carbon steel castings, including rolls for rolling mills:		
	For sale	a18,761	a21,172
	For own use	1,175	1,141
	Alloy (except high alloy) steel castings	30,238	r27,292
33255 51	Railway specialties[5]	3,209	3,770
33255 57	Other alloy steel castings, including rolls for rolling mills:		
	For sale	27,029	r23,522
	For own use		
33254 26	High alloy	a6,034	a r6,010
	For sale		
	For own use		

Note: The percent of estimation of each item is indicated as follows (see "Description of Survey" in the text of the January 1986 report, M33A(86)-1, issued April 1986, for a discussion of estimation of missing reports): [a]25 to 50 percent of this item is estimated. [b]Over 50 percent of this item is estimated.

(NA) Not available. [r]Revised by 5 percent or more from previously published figures.

[1] The data published for November 1986 was for compacted graphite, ductile (nodular) iron, and gray iron castings only.

[2] Does not include machined, threaded, or assembled fittings.

[3] Shipments combine castings for sale and for own use to avoid disclosing figures for individual companies.

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[5] Shipments include a small quantity of railway specialities for own use.

Table 3. QUANTITY OF SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF PRESSURE PIPE AND FITTINGS AND GRAY IRON SOIL PIPE AND FITTINGS: 1986

(Quantity in short tons)

Month and year	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
1986[5]						
Total	1,697,799	62,087	3.7	28,016	1,663,728	1.6
December	111,316	2,888	2.6	2,121	110,549	1.9
November	145,804	16,304	11.2	2,467	131,967	1.9
October	164,205	2,065	1.3	2,095	164,235	1.3
September	146,200	4,074	2.8	2,041	144,167	1.4
August	157,866	879	0.6	2,712	159,699	1.7
July	164,266	769	0.5	2,949	166,446	1.8
June	155,184	955	0.6	3,357	157,586	2.1
May	158,244	10,422	6.6	2,229	150,051	1.5
April	171,346	1,742	1.0	1,792	171,396	1.0
March	123,174	19,227	15.6	2,286	106,233	2.2
February	97,590	1,097	1.1	1,832	98,325	1.9
January	102,604	1,665	1.6	2,135	103,074	2.1

See footnotes at end of table 4.

Table 4. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF SELECTED IRON AND STEEL CASTINGS

(Quantity in short tons)

Product code	Product description	Manufacturers' shipments[1]	Exports of domestic merchandise[1 2]	Percent exports to manufacturers' shipments	Imports for consumption[1 3]	Apparent consumption[4]	Percent imports to apparent consumption
	DECEMBER 1986						
33216 11	Molds for heavy steel ingots[5]	49,479	2,324	4.7	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	22,115	403	1.8			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	7,641			2,121	110,549	1.9
			2,485	2.8			
3321A 31 and 35	Ductile iron	81,560					
	NOVEMBER 1986						
33216 11	Molds for heavy steel ingots[5]	40,684	772	1.8	-	(NA)	(NA)
33218 00	Gray iron soil pipe and fittings	25,102	11,185	44.6			
	Pressure pipe and fittings:						
33217 44 and 45	Gray iron	7,964			2,467	131,967	1.9
			5,119	4.2			
3321A 31 and 35	Ductile iron	112,738					

- Represents zero. (NA) Not available.

[1] For a comparison of Standard Industrial Classification (SIC) codes, Schedule B export numbers, see table 5 in the January 1986 report, M33A(86)-1, issued April 1986.
[2] Source: Bureau of Census report EM 546, U.S. Exports.
[3] Source: Bureau of Census report IM 145-X, U.S. Imports for Consumption and General Imports.
[4] Apparent consumption is derived by subtracting exports from the total of shipments plus imports.
[5] Includes converters and parts for casting machines.

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